

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
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Tel: (253)922-2310

TestAmerica Job ID: 580-62722-1

Client Project/Site: Ardagh Sediment Annual

For:

Ardagh Glass, Inc.  
5801 East Marginal Way  
Seattle, Washington 98134

Attn: Lana Getubig

Kristine D. Allen

Authorized for release by:  
10/13/2016 1:42:24 PM

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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# Case Narrative

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Job ID: 580-62722-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-62722-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/23/2016 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

#### GC/MS Semi VOA

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: SED - DB - 1 (580-62722-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The following samples was diluted due to the nature of the sample matrix: SED - DB - 1 (580-62722-1), SED - DB - 2 (580-62722-2), SED - DB - 3 (580-62722-3), SED - DB - 4 (580-62722-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8082A: The following CCV fell outside the control limits for surrogate DCB Decachlorobiphenyl on the confirmation column only. All data is being reported from the primary column. (CCVIS 580-228432/8)

Method(s) 8082A: The opening CCVs associated with preparation batch 580-228248 and analytical batch 580-228324 fell outside the control limits for Tetrachloro-m-xylene, DCB Decachlorobiphenyl, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, PCB-1262 and PCB-1268 on the confirmation column only. All data is reported from the primary column. (CCV 580-228324/4), (CCV 580-228324/5), (CCV 580-228324/6), (CCV 580-228324/7), (CCVIS 580-228324/8), (LCS 580-228248/2-A), (MB 580-228248/1-A).

Method(s) 8082A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: SED - DB - 1 (580-62722-1), SED - DB - 2 (580-62722-2), SED - DB - 3 (580-62722-3) and SED - DB - 4 (580-62722-4). Lot#615040-BB

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: SED - DB - 1 (580-62722-1), SED - DB - 2 (580-62722-2), SED - DB - 3 (580-62722-3), SED - DB - 4 (580-62722-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Geotechnical

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

### Qualifiers

#### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

#### GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 1**

**Lab Sample ID: 580-62722-1**

**Date Collected: 09/22/16 09:35**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 95.2**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		300	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
2-Chloronaphthalene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
2-Methylnaphthalene	ND		200	39	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Acenaphthene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Acenaphthylene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Anthracene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
<b>Benzo[a]anthracene</b>	<b>120</b>	<b>J</b>	200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Benzo[a]pyrene	ND		350	130	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Benzo[b]fluoranthene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Benzo[g,h,i]perylene	ND		350	150	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Benzo[k]fluoranthene	ND		540	140	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Carbazole	ND		990	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
<b>Chrysene</b>	<b>280</b>		250	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Dibenz(a,h)anthracene	ND		390	120	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Dibenzofuran	ND		990	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
<b>Fluoranthene</b>	<b>260</b>		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Fluorene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Indeno[1,2,3-cd]pyrene	ND		390	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Naphthalene	ND		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
<b>Phenanthrene</b>	<b>120</b>	<b>J</b>	200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
<b>Pyrene</b>	<b>580</b>		200	49	ug/Kg	✱	09/26/16 09:23	09/26/16 17:34	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	141	X	78 - 136				09/26/16 09:23	09/26/16 17:34	50

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		23	7.0	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
PCB-1221	ND		10	3.9	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
PCB-1232	ND		10	4.6	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
PCB-1242	ND		9.4	1.5	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
PCB-1248	ND		10	2.7	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
PCB-1254	ND		9.4	1.4	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
<b>PCB-1260</b>	<b>3.3</b>	<b>J</b>	9.4	1.8	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
Polychlorinated biphenyls, Total	ND		23	7.0	ug/Kg	✱	09/24/16 08:04	09/27/16 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	53		37 - 140				09/24/16 08:04	09/27/16 16:23	1
Tetrachloro-m-xylene	96		45 - 135				09/24/16 08:04	09/27/16 16:23	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>#2 Diesel (C10-C24)</b>	<b>390</b>		25	11	mg/Kg	✱	09/26/16 08:20	09/28/16 00:29	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>3000</b>		50	9.0	mg/Kg	✱	09/26/16 08:20	09/28/16 00:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150				09/26/16 08:20	09/28/16 00:29	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>1.1</b>		0.24	0.088	mg/Kg	✱	09/26/16 09:36	09/27/16 01:58	5

TestAmerica Seattle

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 1**

**Lab Sample ID: 580-62722-1**

**Date Collected: 09/22/16 09:35**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 95.2**

## Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.58		0.098	0.021	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Beryllium	0.040	J	0.098	0.017	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Cadmium	0.16		0.098	0.0093	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Chromium	21		0.24	0.031	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Copper	15		0.20	0.048	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Lead	5.4		0.24	0.023	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Nickel	20		0.24	0.040	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Selenium	0.21	J	0.49	0.099	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Silver	0.037	J	0.098	0.0059	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Thallium	ND		0.20	0.064	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5
Zinc	200		2.4	0.55	mg/Kg	☼	09/26/16 09:36	09/27/16 01:58	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0060	mg/Kg	☼	09/26/16 08:31	09/26/16 11:24	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	32000		2000	44	mg/Kg			09/28/16 11:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.2		0.1	0.1	%			09/26/16 16:36	1

## Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	46.0				%			10/03/16 14:18	1
Coarse Sand	25.4				%			10/03/16 14:18	1
Medium Sand	19.6				%			10/03/16 14:18	1
Fine Sand	6.7				%			10/03/16 14:18	1
Silt	1.4				%			10/03/16 14:18	1
Clay	0.9				%			10/03/16 14:18	1

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 2**

**Lab Sample ID: 580-62722-2**

**Date Collected: 09/22/16 09:05**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 70.3**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		67	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
2-Chloronaphthalene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
2-Methylnaphthalene	ND		45	8.9	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Acenaphthene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Acenaphthylene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Anthracene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Benzo[a]anthracene	57		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Benzo[a]pyrene	110		78	29	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Benzo[b]fluoranthene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Benzo[g,h,i]perylene	110		78	33	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Benzo[k]fluoranthene	ND		120	31	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Carbazole	ND		220	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Chrysene	170		56	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Dibenz(a,h)anthracene	ND		89	27	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Dibenzofuran	ND		220	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Fluoranthene	180		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Fluorene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Indeno[1,2,3-cd]pyrene	ND		89	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Naphthalene	ND		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Phenanthrene	47		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Pyrene	360		45	11	ug/Kg	☼	09/26/16 09:23	09/26/16 17:59	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	129		78 - 136				09/26/16 09:23	09/26/16 17:59	10

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		28	8.3	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1221	ND		12	4.7	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1232	ND		12	5.5	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1242	ND		11	1.8	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1248	ND		12	3.2	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1254	31		11	1.7	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
PCB-1260	23		11	2.1	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
Polychlorinated biphenyls, Total	54		28	8.3	ug/Kg	☼	09/24/16 08:04	09/27/16 16:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	52		37 - 140				09/24/16 08:04	09/27/16 16:39	1
Tetrachloro-m-xylene	77		45 - 135				09/24/16 08:04	09/27/16 16:39	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	340		33	15	mg/Kg	☼	09/26/16 08:20	09/28/16 00:50	1
Motor Oil (>C24-C36)	2500		67	12	mg/Kg	☼	09/26/16 08:20	09/28/16 00:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150				09/26/16 08:20	09/28/16 00:50	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		0.32	0.12	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5

TestAmerica Seattle

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 2**

**Lab Sample ID: 580-62722-2**

**Date Collected: 09/22/16 09:05**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 70.3**

## Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.6		0.13	0.027	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Beryllium	0.070	J	0.13	0.023	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Cadmium	0.98		0.13	0.012	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Chromium	28		0.32	0.041	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Copper	77		0.26	0.064	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Lead	78		0.32	0.031	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Nickel	23		0.32	0.053	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Selenium	2.4		0.65	0.13	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Silver	0.17		0.13	0.0078	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Thallium	ND		0.26	0.084	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5
Zinc	780		3.2	0.73	mg/Kg	☼	09/26/16 09:36	09/27/16 01:45	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0083	J	0.025	0.0076	mg/Kg	☼	09/26/16 08:31	09/26/16 11:25	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	54000		2000	44	mg/Kg			09/28/16 11:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.3		0.1	0.1	%			09/26/16 16:36	1

## Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	49.6				%			10/03/16 14:18	1
Coarse Sand	18.9				%			10/03/16 14:18	1
Medium Sand	10.2				%			10/03/16 14:18	1
Fine Sand	8.5				%			10/03/16 14:18	1
Silt	11.3				%			10/03/16 14:18	1
Clay	1.5				%			10/03/16 14:18	1

TestAmerica Seattle



# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 3**

**Lab Sample ID: 580-62722-3**

**Date Collected: 09/22/16 08:30**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 78.1**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		59	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
2-Chloronaphthalene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
2-Methylnaphthalene	ND		39	7.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Acenaphthene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Acenaphthylene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Anthracene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Benzo[a]anthracene	37	J	39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Benzo[a]pyrene	ND	F1	69	26	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Benzo[b]fluoranthene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Benzo[g,h,i]perylene	62	J F1	69	30	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Benzo[k]fluoranthene	ND		110	28	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Carbazole	ND		200	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Chrysene	80		49	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Dibenz(a,h)anthracene	ND		79	24	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Dibenzofuran	ND		200	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Fluoranthene	140		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Fluorene	ND		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Indeno[1,2,3-cd]pyrene	ND		79	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Naphthalene	21	J	39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Phenanthrene	65		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Pyrene	350		39	9.9	ug/Kg	☼	09/26/16 09:23	09/26/16 18:24	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	131		78 - 136				09/26/16 09:23	09/26/16 18:24	10

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		28	8.3	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1221	ND		12	4.7	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1232	ND		12	5.5	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1242	ND		11	1.8	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1248	ND		12	3.3	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1254	ND		11	1.7	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
PCB-1260	ND		11	2.1	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
Polychlorinated biphenyls, Total	ND		28	8.3	ug/Kg	☼	09/24/16 08:04	09/27/16 16:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	52		37 - 140				09/24/16 08:04	09/27/16 16:56	1
Tetrachloro-m-xylene	87		45 - 135				09/24/16 08:04	09/27/16 16:56	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	850		31	13	mg/Kg	☼	09/26/16 08:20	09/28/16 01:10	1
Motor Oil (>C24-C36)	2600		61	11	mg/Kg	☼	09/26/16 08:20	09/28/16 01:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150				09/26/16 08:20	09/28/16 01:10	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.57		0.28	0.10	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5

TestAmerica Seattle

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 3**

**Lab Sample ID: 580-62722-3**

**Date Collected: 09/22/16 08:30**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 78.1**

## Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.55		0.11	0.024	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Beryllium	0.026	J	0.11	0.020	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Cadmium	0.50		0.11	0.011	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Chromium	4.5		0.28	0.036	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Copper	13		0.23	0.056	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Lead	15		0.28	0.027	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Nickel	3.2		0.28	0.046	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Selenium	0.16	J	0.57	0.11	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Silver	0.59		0.11	0.0068	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Thallium	ND		0.23	0.074	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5
Zinc	300		2.8	0.64	mg/Kg	☼	09/26/16 09:36	09/27/16 01:49	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.038		0.023	0.0069	mg/Kg	☼	09/26/16 08:31	09/26/16 11:27	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	28000		2000	44	mg/Kg			09/28/16 11:49	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	78.1		0.1	0.1	%			09/26/16 16:36	1

## Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	27.3				%			10/03/16 14:18	1
Coarse Sand	19.3				%			10/03/16 14:18	1
Medium Sand	24.2				%			10/03/16 14:18	1
Fine Sand	20.9				%			10/03/16 14:18	1
Silt	6.2				%			10/03/16 14:18	1
Clay	2.1				%			10/03/16 14:18	1

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 4**

**Lab Sample ID: 580-62722-4**

**Date Collected: 09/22/16 08:40**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 39.2**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		710	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
2-Chloronaphthalene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
2-Methylnaphthalene	ND		470	94	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Acenaphthene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Acenaphthylene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Anthracene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Benzo[a]anthracene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Benzo[a]pyrene	ND		830	310	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Benzo[b]fluoranthene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Benzo[g,h,i]perylene	ND		830	350	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Benzo[k]fluoranthene	ND		1300	330	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Carbazole	ND		2400	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Chrysene	ND		590	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Dibenz(a,h)anthracene	ND		940	280	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Dibenzofuran	ND		2400	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Fluoranthene	350	J	470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Fluorene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Indeno[1,2,3-cd]pyrene	ND		940	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Naphthalene	ND		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Phenanthrene	210	J	470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Pyrene	540		470	120	ug/Kg	☆	09/26/16 09:23	09/26/16 19:40	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	127		78 - 136				09/26/16 09:23	09/26/16 19:40	50

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		52	15	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1221	ND		23	8.7	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1232	ND		23	10	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1242	ND		21	3.3	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1248	ND		23	6.0	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1254	ND		21	3.1	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
PCB-1260	18	J	21	3.9	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
Polychlorinated biphenyls, Total	18	J	52	15	ug/Kg	☆	09/24/16 08:04	09/27/16 17:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		37 - 140				09/24/16 08:04	09/27/16 17:12	1
Tetrachloro-m-xylene	87		45 - 135				09/24/16 08:04	09/27/16 17:12	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1400		62	27	mg/Kg	☆	09/26/16 08:20	09/28/16 01:31	1
Motor Oil (>C24-C36)	7800		120	22	mg/Kg	☆	09/26/16 08:20	09/28/16 01:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150				09/26/16 08:20	09/28/16 01:31	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.4		0.59	0.21	mg/Kg	☆	09/26/16 09:36	09/27/16 01:54	5

TestAmerica Seattle

# Client Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 4**

**Lab Sample ID: 580-62722-4**

**Date Collected: 09/22/16 08:40**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 39.2**

## Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.2		0.23	0.049	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Beryllium	0.070	J	0.23	0.041	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Cadmium	0.67		0.23	0.022	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Chromium	17		0.59	0.074	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Copper	34		0.47	0.12	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Lead	27		0.59	0.056	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Nickel	14		0.59	0.095	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Selenium	0.89	J	1.2	0.24	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Silver	0.25		0.23	0.014	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Thallium	ND		0.47	0.15	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5
Zinc	590		5.9	1.3	mg/Kg	☼	09/26/16 09:36	09/27/16 01:54	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.027	J	0.049	0.015	mg/Kg	☼	09/26/16 08:31	09/26/16 11:16	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	120000		2000	44	mg/Kg			09/28/16 11:55	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	39.2		0.1	0.1	%			09/26/16 16:36	1

## Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	15.2				%			10/03/16 14:18	1
Coarse Sand	16.8				%			10/03/16 14:18	1
Medium Sand	17.1				%			10/03/16 14:18	1
Fine Sand	21.4				%			10/03/16 14:18	1
Silt	23.9				%			10/03/16 14:18	1
Clay	5.5				%			10/03/16 14:18	1

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-228292/1-A

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		6.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
2-Chloronaphthalene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
2-Methylnaphthalene	ND		4.0	0.80	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Acenaphthene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Acenaphthylene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Anthracene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Benzo[a]anthracene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Benzo[a]pyrene	ND		7.0	2.6	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Benzo[b]fluoranthene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Benzo[g,h,i]perylene	ND		7.0	3.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Benzo[k]fluoranthene	ND		11	2.8	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Carbazole	ND		20	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Chrysene	ND		5.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Dibenz(a,h)anthracene	ND		8.0	2.4	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Dibenzofuran	ND		20	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Fluoranthene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Fluorene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Indeno[1,2,3-cd]pyrene	ND		8.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Naphthalene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Phenanthrene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1
Pyrene	ND		4.0	1.0	ug/Kg		09/26/16 09:23	09/26/16 15:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	106		78 - 136	09/26/16 09:23	09/26/16 15:02	1

Lab Sample ID: LCS 580-228292/2-A

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	200	168		ug/Kg		84	73 - 118
2-Chloronaphthalene	200	159		ug/Kg		79	68 - 112
2-Methylnaphthalene	200	155		ug/Kg		78	71 - 119
Acenaphthene	200	151		ug/Kg		75	68 - 116
Acenaphthylene	200	158		ug/Kg		79	68 - 120
Anthracene	200	164		ug/Kg		82	73 - 123
Benzo[a]anthracene	200	162		ug/Kg		81	69 - 125
Benzo[a]pyrene	200	158		ug/Kg		79	66 - 117
Benzo[b]fluoranthene	200	149		ug/Kg		75	63 - 132
Benzo[g,h,i]perylene	200	169		ug/Kg		85	60 - 130
Benzo[k]fluoranthene	200	161		ug/Kg		81	63 - 130
Carbazole	200	174		ug/Kg		87	76 - 135
Chrysene	200	180		ug/Kg		90	75 - 114
Dibenz(a,h)anthracene	200	170		ug/Kg		85	56 - 134
Dibenzofuran	200	159		ug/Kg		80	72 - 119
Fluoranthene	200	184		ug/Kg		92	73 - 125
Fluorene	200	170		ug/Kg		85	70 - 121
Indeno[1,2,3-cd]pyrene	200	175		ug/Kg		88	56 - 145

TestAmerica Seattle

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-228292/2-A

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	200	151		ug/Kg		75	62 - 112
Phenanthrene	200	154		ug/Kg		77	73 - 112
Pyrene	200	191		ug/Kg		96	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	99		78 - 136

Lab Sample ID: 580-62722-3 MS

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: SED - DB - 3

Prep Type: Total/NA

Prep Batch: 228292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	ND		229	247		ug/Kg	☼	108	73 - 118
2-Chloronaphthalene	ND		229	219		ug/Kg	☼	96	68 - 112
2-Methylnaphthalene	ND		229	227		ug/Kg	☼	99	71 - 119
Acenaphthene	ND		229	225		ug/Kg	☼	98	68 - 116
Acenaphthylene	ND		229	253		ug/Kg	☼	110	68 - 120
Anthracene	ND		229	261		ug/Kg	☼	114	73 - 123
Benzo[a]anthracene	37 J		229	290		ug/Kg	☼	110	69 - 125
Benzo[a]pyrene	ND F1		229	275 F1		ug/Kg	☼	120	66 - 117
Benzo[b]fluoranthene	ND		229	291		ug/Kg	☼	127	63 - 132
Benzo[g,h,i]perylene	62 J F1		229	189 F1		ug/Kg	☼	55	60 - 130
Benzo[k]fluoranthene	ND		229	268		ug/Kg	☼	117	63 - 130
Carbazole	ND		229	275		ug/Kg	☼	120	76 - 135
Chrysene	80		229	313		ug/Kg	☼	102	75 - 114
Dibenz(a,h)anthracene	ND		229	150		ug/Kg	☼	66	56 - 134
Dibenzofuran	ND		229	213 J		ug/Kg	☼	93	72 - 119
Fluoranthene	140		229	415		ug/Kg	☼	122	73 - 125
Fluorene	ND		229	248		ug/Kg	☼	108	70 - 121
Indeno[1,2,3-cd]pyrene	ND		229	167		ug/Kg	☼	73	56 - 145
Naphthalene	21 J		229	219		ug/Kg	☼	86	62 - 112
Phenanthrene	65		229	282		ug/Kg	☼	94	73 - 112
Pyrene	350		229	599		ug/Kg	☼	109	70 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
Terphenyl-d14	129		78 - 136

Lab Sample ID: 580-62722-3 MSD

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: SED - DB - 3

Prep Type: Total/NA

Prep Batch: 228292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1-Methylnaphthalene	ND		237	217		ug/Kg	☼	91	73 - 118	13	40
2-Chloronaphthalene	ND		237	192		ug/Kg	☼	81	68 - 112	13	40
2-Methylnaphthalene	ND		237	208		ug/Kg	☼	88	71 - 119	9	40
Acenaphthene	ND		237	183		ug/Kg	☼	77	68 - 116	20	40
Acenaphthylene	ND		237	211		ug/Kg	☼	89	68 - 120	18	40
Anthracene	ND		237	222		ug/Kg	☼	94	73 - 123	16	40

TestAmerica Seattle

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-62722-3 MSD

Matrix: Solid

Analysis Batch: 228335

Client Sample ID: SED - DB - 3

Prep Type: Total/NA

Prep Batch: 228292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	37	J	237	259		ug/Kg	*	94	69 - 125	11	40
Benzo[a]pyrene	ND	F1	237	279	F1	ug/Kg	*	118	66 - 117	1	40
Benzo[b]fluoranthene	ND		237	300		ug/Kg	*	127	63 - 132	3	40
Benzo[g,h,i]perylene	62	J F1	237	153	F1	ug/Kg	*	38	60 - 130	21	40
Benzo[k]fluoranthene	ND		237	214		ug/Kg	*	90	63 - 130	23	40
Carbazole	ND		237	246		ug/Kg	*	104	76 - 135	11	40
Chrysene	80		237	284		ug/Kg	*	86	75 - 114	10	40
Dibenz(a,h)anthracene	ND		237	148		ug/Kg	*	62	56 - 134	2	40
Dibenzofuran	ND		237	210	J	ug/Kg	*	88	72 - 119	2	40
Fluoranthene	140		237	403		ug/Kg	*	113	73 - 125	3	40
Fluorene	ND		237	217		ug/Kg	*	91	70 - 121	13	40
Indeno[1,2,3-cd]pyrene	ND		237	173		ug/Kg	*	73	56 - 145	3	40
Naphthalene	21	J	237	204		ug/Kg	*	77	62 - 112	7	40
Phenanthrene	65		237	248		ug/Kg	*	77	73 - 112	13	40
Pyrene	350		237	566		ug/Kg	*	91	70 - 120	6	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Terphenyl-d14	114		78 - 136

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-228248/1-A

Matrix: Solid

Analysis Batch: 228324

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		25	7.4	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1221	ND		11	4.2	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1232	ND		11	4.9	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1242	ND		10	1.6	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1248	ND		11	2.9	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1254	ND		10	1.5	ug/Kg		09/24/16 08:04	09/27/16 04:44	1
PCB-1260	ND		10	1.9	ug/Kg		09/24/16 08:04	09/27/16 04:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	83		37 - 140	09/24/16 08:04	09/27/16 04:44	1
Tetrachloro-m-xylene	89		45 - 135	09/24/16 08:04	09/27/16 04:44	1

Lab Sample ID: LCS 580-228248/2-A

Matrix: Solid

Analysis Batch: 228324

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	100	92.5		ug/Kg		93	51 - 129
PCB-1260	100	91.5		ug/Kg		91	45 - 130

TestAmerica Seattle

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-228248/2-A

Matrix: Solid

Analysis Batch: 228324

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228248

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	89		37 - 140
Tetrachloro-m-xylene	94		45 - 135

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-228274/1-A

Matrix: Solid

Analysis Batch: 228424

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228274

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25	11	mg/Kg		09/26/16 08:20	09/27/16 16:06	1
Motor Oil (>C24-C36)	ND		50	9.1	mg/Kg		09/26/16 08:20	09/27/16 16:06	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	09/26/16 08:20	09/27/16 16:06	1

Lab Sample ID: LCS 580-228274/2-A

Matrix: Solid

Analysis Batch: 228424

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228274

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	503	468		mg/Kg		93	70 - 125
Motor Oil (>C24-C36)	503	488		mg/Kg		97	64 - 127

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	85		50 - 150

## Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-228293/19-A

Matrix: Solid

Analysis Batch: 228387

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.090	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Antimony	ND		0.10	0.021	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Beryllium	ND		0.10	0.018	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Cadmium	ND		0.10	0.0095	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Chromium	ND		0.25	0.032	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Copper	ND		0.20	0.049	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Lead	ND		0.25	0.024	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Nickel	ND		0.25	0.041	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Selenium	ND		0.50	0.10	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Silver	ND		0.10	0.0060	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Thallium	ND		0.20	0.065	mg/Kg		09/26/16 09:36	09/26/16 23:48	5
Zinc	ND		2.5	0.56	mg/Kg		09/26/16 09:36	09/26/16 23:48	5

TestAmerica Seattle



# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-228293/20-A

Matrix: Solid

Analysis Batch: 228387

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		100	80 - 120
Antimony	150	149		mg/Kg		99	80 - 120
Beryllium	5.00	5.19		mg/Kg		104	80 - 120
Cadmium	5.00	5.25		mg/Kg		105	80 - 120
Chromium	20.0	20.3		mg/Kg		101	80 - 120
Copper	25.0	23.8		mg/Kg		95	80 - 120
Lead	50.0	49.4		mg/Kg		99	80 - 120
Nickel	50.0	47.0		mg/Kg		94	80 - 120
Selenium	200	203		mg/Kg		101	80 - 120
Silver	30.0	30.2		mg/Kg		101	80 - 120
Thallium	200	188		mg/Kg		94	80 - 120
Zinc	200	195		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-228293/21-A

Matrix: Solid

Analysis Batch: 228387

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228293

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	199		mg/Kg		99	80 - 120	1	20
Antimony	150	146		mg/Kg		97	80 - 120	2	20
Beryllium	5.00	4.92		mg/Kg		98	80 - 120	5	20
Cadmium	5.00	5.15		mg/Kg		103	80 - 120	2	20
Chromium	20.0	19.9		mg/Kg		99	80 - 120	2	20
Copper	25.0	23.5		mg/Kg		94	80 - 120	1	20
Lead	50.0	48.4		mg/Kg		97	80 - 120	2	20
Nickel	50.0	47.3		mg/Kg		95	80 - 120	1	20
Selenium	200	202		mg/Kg		101	80 - 120	0	20
Silver	30.0	29.4		mg/Kg		98	80 - 120	3	20
Thallium	200	179		mg/Kg		90	80 - 120	5	20
Zinc	200	193		mg/Kg		97	80 - 120	1	20

## Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-228281/22-A

Matrix: Solid

Analysis Batch: 228340

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228281

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0060	mg/Kg		09/26/16 08:31	09/26/16 10:39	1

Lab Sample ID: LCS 580-228281/23-A

Matrix: Solid

Analysis Batch: 228340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.153		mg/Kg		92	80 - 120

TestAmerica Seattle

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-228281/24-A

Matrix: Solid

Analysis Batch: 228340

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228281

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.156		mg/Kg		94	80 - 120	2	20

## Method: 9060\_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-228592/3

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			09/28/16 10:29	1

Lab Sample ID: LCS 580-228592/4

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	4620	4980		mg/Kg		108	49 - 151		

Lab Sample ID: LCSD 580-228592/5

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4620	4660		mg/Kg		101	49 - 151	7	35

Lab Sample ID: 580-62722-1 MS

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: SED - DB - 1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	32000		120000	142000		mg/Kg		92	50 - 140		

Lab Sample ID: 580-62722-1 MSD

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: SED - DB - 1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	32000		120000	125000		mg/Kg		77	50 - 140	13	35

Lab Sample ID: 580-62722-1 DU

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: SED - DB - 1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	32000			31900		mg/Kg				0.2	50

TestAmerica Seattle

# QC Sample Results

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

## Method: 9060\_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-62722-1 TRL

Matrix: Solid

Analysis Batch: 228592

Client Sample ID: TRIP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	TRL Result	TRL Qualifier	Unit	D	RSD	RSD Limit
Total Organic Carbon - Duplicates	32000		27300		mg/Kg		9	

## Method: D422 - Grain Size

Lab Sample ID: 580-62722-1 DU

Matrix: Solid

Analysis Batch: 228897

Client Sample ID: SED - DB - 1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Gravel	46.0		45.7		%		0.7	20
Coarse Sand	25.4		25.8		%		2	20
Medium Sand	19.6		19.4		%		1	20
Fine Sand	6.7		6.6		%		2	20
Silt	1.4		1.5		%		7	20
Clay	0.9		1.0		%		11	20

# Lab Chronicle

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 1**

**Date Collected: 09/22/16 09:35**

**Date Received: 09/23/16 14:55**

**Lab Sample ID: 580-62722-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	228592	09/28/16 11:23	RSB	TAL SEA
Total/NA	Analysis	D 2216		1	228369	09/26/16 16:36	CBS	TAL SEA
Total/NA	Analysis	D422		1	228897	10/03/16 14:18	HJM	TAL SEA

**Client Sample ID: SED - DB - 1**

**Date Collected: 09/22/16 09:35**

**Date Received: 09/23/16 14:55**

**Lab Sample ID: 580-62722-1**

**Matrix: Solid**

**Percent Solids: 95.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			228292	09/26/16 09:23	CJZ	TAL SEA
Total/NA	Analysis	8270D		50	228335	09/26/16 17:34	D1R	TAL SEA
Total/NA	Prep	3546			228248	09/24/16 08:04	CBS	TAL SEA
Total/NA	Analysis	8082A		1	228432	09/27/16 16:23	DCV	TAL SEA
Total/NA	Prep	3546			228274	09/26/16 08:20	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	228424	09/28/16 00:29	KZ1	TAL SEA
Total/NA	Prep	3050B			228293	09/26/16 09:36	MKN	TAL SEA
Total/NA	Analysis	6020A		5	228387	09/27/16 01:58	FCW	TAL SEA
Total/NA	Prep	7471A			228281	09/26/16 08:31	MKN	TAL SEA
Total/NA	Analysis	7471A		1	228340	09/26/16 11:24	FCW	TAL SEA

**Client Sample ID: SED - DB - 2**

**Date Collected: 09/22/16 09:05**

**Date Received: 09/23/16 14:55**

**Lab Sample ID: 580-62722-2**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	228592	09/28/16 11:44	RSB	TAL SEA
Total/NA	Analysis	D 2216		1	228369	09/26/16 16:36	CBS	TAL SEA
Total/NA	Analysis	D422		1	228897	10/03/16 14:18	HJM	TAL SEA

**Client Sample ID: SED - DB - 2**

**Date Collected: 09/22/16 09:05**

**Date Received: 09/23/16 14:55**

**Lab Sample ID: 580-62722-2**

**Matrix: Solid**

**Percent Solids: 70.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			228292	09/26/16 09:23	CJZ	TAL SEA
Total/NA	Analysis	8270D		10	228335	09/26/16 17:59	D1R	TAL SEA
Total/NA	Prep	3546			228248	09/24/16 08:04	CBS	TAL SEA
Total/NA	Analysis	8082A		1	228432	09/27/16 16:39	DCV	TAL SEA
Total/NA	Prep	3546			228274	09/26/16 08:20	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	228424	09/28/16 00:50	KZ1	TAL SEA
Total/NA	Prep	3050B			228293	09/26/16 09:36	MKN	TAL SEA
Total/NA	Analysis	6020A		5	228387	09/27/16 01:45	FCW	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 2**

**Lab Sample ID: 580-62722-2**

**Date Collected: 09/22/16 09:05**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 70.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			228281	09/26/16 08:31	MKN	TAL SEA
Total/NA	Analysis	7471A		1	228340	09/26/16 11:25	FCW	TAL SEA

**Client Sample ID: SED - DB - 3**

**Lab Sample ID: 580-62722-3**

**Date Collected: 09/22/16 08:30**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	228592	09/28/16 11:49	RSB	TAL SEA
Total/NA	Analysis	D 2216		1	228369	09/26/16 16:36	CBS	TAL SEA
Total/NA	Analysis	D422		1	228897	10/03/16 14:18	HJM	TAL SEA

**Client Sample ID: SED - DB - 3**

**Lab Sample ID: 580-62722-3**

**Date Collected: 09/22/16 08:30**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 78.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			228292	09/26/16 09:23	CJZ	TAL SEA
Total/NA	Analysis	8270D		10	228335	09/26/16 18:24	D1R	TAL SEA
Total/NA	Prep	3546			228248	09/24/16 08:04	CBS	TAL SEA
Total/NA	Analysis	8082A		1	228432	09/27/16 16:56	DCV	TAL SEA
Total/NA	Prep	3546			228274	09/26/16 08:20	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	228424	09/28/16 01:10	KZ1	TAL SEA
Total/NA	Prep	3050B			228293	09/26/16 09:36	MKN	TAL SEA
Total/NA	Analysis	6020A		5	228387	09/27/16 01:49	FCW	TAL SEA
Total/NA	Prep	7471A			228281	09/26/16 08:31	MKN	TAL SEA
Total/NA	Analysis	7471A		1	228340	09/26/16 11:27	FCW	TAL SEA

**Client Sample ID: SED - DB - 4**

**Lab Sample ID: 580-62722-4**

**Date Collected: 09/22/16 08:40**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	228592	09/28/16 11:55	RSB	TAL SEA
Total/NA	Analysis	D 2216		1	228369	09/26/16 16:36	CBS	TAL SEA
Total/NA	Analysis	D422		1	228897	10/03/16 14:18	HJM	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

**Client Sample ID: SED - DB - 4**

**Lab Sample ID: 580-62722-4**

**Date Collected: 09/22/16 08:40**

**Matrix: Solid**

**Date Received: 09/23/16 14:55**

**Percent Solids: 39.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			228292	09/26/16 09:23	CJZ	TAL SEA
Total/NA	Analysis	8270D		50	228335	09/26/16 19:40	D1R	TAL SEA
Total/NA	Prep	3546			228248	09/24/16 08:04	CBS	TAL SEA
Total/NA	Analysis	8082A		1	228432	09/27/16 17:12	DCV	TAL SEA
Total/NA	Prep	3546			228274	09/26/16 08:20	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	228424	09/28/16 01:31	KZ1	TAL SEA
Total/NA	Prep	3050B			228293	09/26/16 09:36	MKN	TAL SEA
Total/NA	Analysis	6020A		5	228387	09/27/16 01:54	FCW	TAL SEA
Total/NA	Prep	7471A			228281	09/26/16 08:31	MKN	TAL SEA
Total/NA	Analysis	7471A		1	228340	09/26/16 11:16	FCW	TAL SEA

## Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

## Certification Summary

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

### Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-17
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-16
US Fish & Wildlife	Federal		LE058448-0	10-31-16
USDA	Federal		P330-14-00126	04-08-17
Washington	State Program	10	C553	02-17-17

## Sample Summary

Client: Ardagh Glass, Inc.  
Project/Site: Ardagh Sediment Annual

TestAmerica Job ID: 580-62722-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-62722-1	SED - DB - 1	Solid	09/22/16 09:35	09/23/16 14:55
580-62722-2	SED - DB - 2	Solid	09/22/16 09:05	09/23/16 14:55
580-62722-3	SED - DB - 3	Solid	09/22/16 08:30	09/23/16 14:55
580-62722-4	SED - DB - 4	Solid	09/22/16 08:40	09/23/16 14:55





## Login Sample Receipt Checklist

Client: Ardagh Glass, Inc.

Job Number: 580-62722-1

**Login Number: 62722**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	